Abstract of the Disclosure

A method of producing a heating element made from molybdenum silicide and alloys thereof, and which includes aluminum oxide on its surface. A material is produced that contains substantially $Mo(Si_{1-x}\ Al_x)_2$ and Al_2O_3 by mixing a mixture of a silicon and molybdenum compound with m aluminum compound. Either of the silicon and molybdenum compounds include $Mo(Si_{1-y}\ Al_y)_2$ and are mixed with one or both of an aluminum compound in the form of Al_2O_3 or $Al(OH)_3$ and optionally the compounds SiO_2, Si, and MoO_3, or by virtue of the mixture of the silicon and molybdenum compound containing MoO_3 and Al and Si and/or SiO_2. The input components together have a degree of purity corresponding to at least 98%. The mixture reacts exothermically and/or by being sintered, so that exchange reactions take place to form the compounds $Mo(Si_{1-x}\ Al_x)_2$ and Al_2O_3, where x lies in the range of 0.4 - 0.6.